

Docket 60058
Serial No. 10/811,447

PATENT APPLICATION

AMENDMENTS TO THE CLAIMS

1 1. (currently amended) A high efficiency dual rotor wind turbine, comprising:
2 a rotatable drive shaft;
3 a first rotor assembly having a plurality of first rotor blades radially extending from a first
4 hub that is connected to said drive shaft;
5 a second rotor assembly having a plurality of second rotor blades radially extending from a
6 second hub; and
7 means for coupling said second hub to said drive shaft rearward of said first rotor assembly
8 for rotation of said second rotor assembly thereabout independent of rotation of said
9 first rotor assembly;
10 a first stage generator rotatably coupled to said drive shaft;
11 a second stage generator operatively connected to said second rotor assembly;
12 a housing defining an interior space;
13 wherein said first and second stage generators are situated in said housing; and
14 wherein said second rotor assembly is positioned intermediate said first rotor assembly and
15 said housing.

1 2. (original) The wind turbine as in claim 1 wherein said coupling means is a plurality of
2 bearings.

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1 3. (original) The wind turbine as in claim 1 wherein said first rotor assembly includes a
2 first diameter and said second rotor assembly includes a second diameter larger than said first
3 diameter.

1 4. (original) The wind turbine as in claim 1 further comprising means for rotatably
2 orienting said first and second rotor assemblies into the wind.

1 5. (original) The wind turbine as in claim 1 further comprising a tail rearward of said
2 second rotor assembly for maintaining the orientation of said first and second rotor assemblies
3 into the wind.

1 6. (original) The wind turbine as in claim 1 wherein said plurality of second rotor blades
2 are angled for rotating said second rotor assembly in the same direction as said first rotor
3 assembly.

1 7. (canceled)

1 8. (canceled)

1 9. (currently amended) The wind turbine as in ~~claim 8~~ claim 1 wherein pulleys and a belt
2 operatively connect said second stage generator to said second rotor assembly.

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1 10. (currently amended) The wind turbine as in ~~claim 8~~ claim 1 wherein:
2 said first stage generator is an ac electrical generator, a dc electrical generator, a pump, or a
3 compressor; and
4 said second stage generator is an ac electrical generator, a dc electrical generator, a pump,
5 or a compressor.

1 11. (canceled)

1 12. (currently amended) The wind turbine as in ~~claim 11~~ claim 1 wherein said housing
2 includes a rotary base for rotation of said wind turbine.

1 13. (currently amended) A high efficiency dual rotor wind turbine, comprising:
2 a rotatable drive shaft;
3 a first rotor assembly having a plurality of first rotor blades radially extending from a first
4 hub that is connected to said drive shaft such that said drive shaft is rotated upon
5 passage of an air stream across said plurality of first rotor blades;
6 a second rotor assembly having a plurality of second rotor blades radially extending from a
7 second hub;
8 means for coupling said second hub to said drive shaft rearward of said first rotor assembly
9 for rotation of said second rotor assembly thereabout independent of rotation of said

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10 first rotor assembly, whereby said drive shaft is further rotated upon passage of said
11 air stream across said second plurality of second rotor blades;
12 means for rotatably orienting said first and second rotor assemblies into the wind;
13 a tail rearward of said second rotor assembly for maintaining the orientation of said first
14 and second rotor assemblies into the wind;
15 a first stage generator rotatably coupled to said drive shaft for actuation thereby; and
16 a second stage generator operatively connected to said second rotor assembly;
17 wherein said first rotor assembly includes a first diameter and said second rotor assembly
18 includes a second diameter larger than said first diameter.

1 14. (canceled)

1 15. (original) The wind turbine as in claim 13 further comprising:
2 a housing defining an interior space;
3 wherein said first and second stage generators are situated in said housing; and
4 wherein said second rotor assembly is positioned intermediate said first rotor assembly and
5 said housing.

1 16. (original) The wind turbine as in claim 13 wherein:
2 said first stage generator is an ac electrical generator, a dc electrical generator, a pump, or a
3 compressor; and

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4 said second stage generator is an ac electrical generator, a dc electrical generator, a pump,
5 or a compressor.

1 17. (original) The wind turbine as in claim 16 wherein said first rotor assembly includes a
2 first diameter and said second rotor assembly includes a second diameter larger than said first
3 diameter.

1 18. (original) The wind turbine as in claim 16 further comprising:
2 a housing defining an interior space;
3 wherein said first and second stage generators are situated in said housing; and
4 wherein said second rotor assembly is positioned intermediate said first rotor assembly and
5 said housing.

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2 19. (original) The wind turbine as in claim 18 wherein said first rotor assembly includes a
3 first diameter and said second rotor assembly includes a second diameter larger than said first
4 diameter.

1 20. (original) The wind turbine as in claim 13 wherein said means for coupling said second
2 rotor assembly to said drive shaft includes a ratchet assembly for engaging said drive shaft when
3 said second rotor assembly is rotating at least as fast as said first rotor assembly and for releasing

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- 4 said drive shaft to rotate freely if said second rotor assembly is rotating slower than said first
- 5 rotor assembly.